



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

The Papers read were—

1. *Proposed Route Across the Isthmus of Kraw.* By Captains FRASER and FORLONG; communicated by Dr. DUNCAN MACPHERSON, M.D., F.R.G.S.

DURING his tour on circuit to the Provinces of Taoof and Mergui, Lieut.-Colonel Fytche proceeded as far as the Pakchan River, the southernmost boundary between the Tenasserim Provinces and Siamese Territory, ascending the stream to a distance of 15 miles. Captain Fraser and Captain Forlong availed themselves of the occasion to explore the direct route from the village of Kraw to the Port of Tayoung, on the Gulf of Siam, a distance of only 30 miles, and lying in about the same parallel. Their report and maps show that there is no high land opposing difficulties to engineering skill to prevent the establishment of an easy means of communication between the Bay of Bengal and the Siamese Gulf, thereby not merely facilitating intercourse with Bangkok, but opening a short route to the further east, which would soon become a highway of considerable traffic.

The numerous deposits of coal which are known to exist in the southern portion of the Tenasserim provinces, warrant a belief that similar deposits will be found in the neighbouring regions, which up to this time have been very little explored.

The steamer *Nemesis* anchored about 15 miles up the River Pakchan, in 5 or 6 fathoms of water. The banks are steep and densely wooded, with a stream running between them of about a mile in breadth at this part. There are some 6 fathoms of water over the bar at the mouth. On the right or British bank are the tin-mines of Mulleywoon, which are said to be workable to any extent to which money and labour are procurable. On the other side are the tin-mines of Rahnong, worked by the Siam Government.

The party left the steamer in a native boat, with a flood tide; proceeded up this river, and at 4 P.M. on the 1st April arrived at Kraw, a Shan village of some fifty houses, with a few Chinese inhabitants. On the 2nd of April they commenced a route-survey across the isthmus. There is a good level cleared road for the first two miles, and to the third mile it rises and passes along the right bank of the Kraw River. The forest on each side consists of bamboos and trees. Up to a little short of the eighth mile the road follows the course of the Kraw River, and is difficult. At the eighth mile they arrived at the watershed of the country, a small grassy plain. The Kraw River runs thence west to join the Pakchan at Kraw; and a

quarter of a mile further on, the river called the Bankren flows to the Gulf of Siam on the East.

At Tasan is a zayat similar to that at Kraw, with a few houses and dry cultivation. The party continued to cross and recross the Tseoompyoon River to the tenth mile. At $17\frac{1}{2}$ miles they reached Assay, another zayat, and were glad to rest for the night. At the 22nd mile they came to the end of the hills, and entered upon a fine open country, with patches of jungle, garden and paddy lands, capable of any amount of cultivation. Here the hills stretched away to the southward, and seemed to run east, parallel with their course. At the 23rd and 25th miles they crossed another river of 120 feet in breadth, the margin of which was much cultivated. At about 30 miles from Kraw they recrossed the Tseoompyoon, where it is about 200 feet broad, and arrived at the residence of the chief civil authority of the district. Tseoompyoon is a large place of some 400 or 500 houses, with a water communication of 20 miles with the Gulf of Siam. Here there is a rise and fall of tide of about 6 feet.

At 2 A.M. on the 4th April they proceeded down a very winding stream to the mouth of the river opening into the Gulf of Siam, where they arrived in about $3\frac{1}{2}$ hours with the tide. There is a bar across the mouth of the River Tseoompyoon, with only $1\frac{1}{2}$ fathom over it at low water. There would be no difficulty in making wharves for large ships, it seemed, nor, in constructing roads from Tseoompyoon to this place. They computed the distance from Tseoompyoon to the sea-shore to be 21 miles, making the total distance from Kraw to the shore of the Gulf about 50 miles. At $7\frac{1}{2}$ A.M. the same day they returned to Tseoompyoon, surveying the river roughly, and passing Tayoung about 4 miles from the mouth.

On the route from Kraw to Tseoompyoon they were struck with a remarkable change of geological series. They had observed, as they emerged on the plains of Tseoompyoon, some remarkably abrupt hills, which proved on examination to consist of sedimentary rocks—and all the islands of the Gulf seemed of the same formation—worn into smooth rounded tops, but with perpendicular sides. The rocks across the Pass were mostly a quartzose sandstone.

The Paper stated that the saving in time between Calcutta and Hong-Kong by this route would be 93 hours; and that 56 hours would be saved from Ceylon to Hong-Kong. While coasting it from Calcutta to Hong-Kong, and touching at four ports, viz., Akyab, Rangoon, Moulmein, and Kraw, 34 hours would be saved over the present route, *viâ* Singapore.

From Ceylon to Kraw, and thence direct to Calcutta, *two extra* English mails might be carried in $9\frac{1}{2}$ days to the mouth of the Hooghly, necessitating only one extra steamer between Ceylon and Aden, to meet the Bombay mail. The capital required for construction was calculated not to exceed 700,000*l*.

[The paper and maps are printed in full in the Journal of the Asiatic Society of Bengal, iv., 1862.—Ed.]

Mr. CRAWFORD said he had never visited the locality of the projected railway, but he knew pretty well what the nature of it was. Though this peninsula was called by the authors of the Paper a strip of land, it was in extent about twice the size of Ireland, containing an area of 60,000 square miles. The greater part of it was thick forest, and the land was not by any means fertile except in minerals, a little tin, iron, and gold.

He could not, however, agree with the authors of the Paper in believing that the projected plan was in the least degree feasible; on the contrary, he was sure it was impracticable. The distance from shore to shore was 65 miles, of which 15 miles were described to be navigable by the so-called Pakchan River. This in reality was not a river, but an estuary of the sea, with only four or five fathoms of water for half the distance, and but a fathom and a half on the bar at low water. Then came the projected railway of 50 miles, at the terminus of which, on the eastern side of the bay, there happened to be no harbour at all. Such a terminus would never do to carry on the great trade of Europe and India with China and Japan. Then, with respect to the monsoons, the rough monsoon in the bay of Bengal is the south-west monsoon, just the very opposite of that which prevails in the China Sea and along the whole of the eastern coast of the Malay peninsula, where the north-east was the boisterous one; its strength is frequently that of an eight or nine knot breeze. A ship could not with safety lie at the terminus, and even a small vessel of about 120 tons, we find from the Paper, had not been able to come inside the bar.

He was afraid these gentlemen had not taken a very clear view of the question of expense. They assumed that the cost of constructing the line would be about 5000*l*. per mile. This he believed was less than one-half the cost of any single line of railway in this country, and about one-third of the cost of a single line in India. The country is a desolate one: the labour, the iron, and everything would have to be imported, for there was nothing to be obtained there but plenty of wood and stone. No doubt the land could be bought cheaply enough; perhaps the King of Siam, to whom it all belonged, would give it to them for nothing, and it would be worth nothing when they got it.

The object of the Paper was to show that the proposed plan would shorten the route from England and India to China by fifty-six hours. This was not much to gain for the expense of constructing a railway at the estimated cost of a third of a million of money. These gentlemen imagined that the transit of goods across the isthmus would be performed in twelve hours; that is to say, that cargoes could be landed, and transmitted and reshipped, all in twelve hours. It was idle to suppose that with one of Green's or Dunbar's ships of two or three thousand tons, it would be possible to accomplish this in twelve hours. The example of the Suez railway, which they quoted, would not apply. Nothing was sent out by that route but valuable commodities, such as high-priced merchandise, gold, silver, and jewellery; and nothing was brought back but raw silk, elephants' teeth, and India shawls. All the bulky commodities still went round by the Cape of Good Hope, as they have been doing from the days of Vasco di Gama.

As to the alleged dangerous navigation of the straits of Malacca. The straits

of Malacca are about 500 miles long and about 300 miles wide at the broadest part. There are no storms: there are variable winds and squalls, called "Sumatras," because they always blow from the coast of Sumatra, which last about a couple of hours. The Peninsular and Oriental Company have been carrying the mails by this route for the last eighteen years. During that period their ships have made between 600 and 700 voyages through the straits, and have met with only one accident, which was caused by two of their ships running against each other in the dark, when one of them went to the bottom. The merchants of Calcutta and Bombay send their opium to China by this route, and out of 300 voyages made by their steamers not a single loss has occurred. Steamers belonging to the Royal Navy are constantly passing and repassing through the straits of Malacca, and he had never heard of one of them being lost. For the last ten years also the Dutch Government have been sending a vessel once a fortnight, and during the whole of that time have never lost a vessel. He, therefore, took it for granted that the navigation of the straits was not so dangerous as had been alleged.

CAPTAIN ANDERSON said he visited Siam in 1826, when he heard of a tradition among the natives that there had been originally a canal across the isthmus of Kraw. He agreed with Mr. Crawford that the line of country was not suitable for a railway, though it might be for a light road.

With respect to the straits of Malacca, he could speak from experience that the navigation, though dangerous to a certain extent, was not dangerous so far as the harbours were concerned. He had navigated the straits thirty-seven times, and had never met with an accident.

The shortening of the passage to China by the proposed route might be very desirable for the trade of Bengal, but it was not an object of national importance. He believed there were better means of getting to China. One was a proposal by Captain Spry to go overland from Eastern Pegu to Hong-Kong, to make a tramroad part of the way, and to take the telegraph the whole way. He had also himself submitted a project to Government to open a communication with China by the Irrawaddy and Assam, which he believed would be the best route.

The PRESIDENT thought Mr. Crawford and Captain Anderson had given sufficient reasons for not advocating this project. The gentlemen, however, who had made this exploration had placed before the Society for the first time a map of the physical geography of a region which was before unknown, and for this they were well entitled to their thanks.

The second Paper read was—

2. *Visit to the Island of Tsusima, near Japan.* By LAURENCE
OLIPHANT, ESQ., F.R.G.S.

THE Island of Tsusima, which forms one of the entrances to the Inland Sea of Japan, lies eighty miles to the westward of the Straits of Simonesaki. Mr. Oliphant's duties led him at once to its capital, Fatchio, a town of 10,000 inhabitants, where he spent an evening in a diplomatic interview, but was jealously restricted in his movements. A subsequent cruise round its coasts afforded materials for many interesting observations. The whole island is the private property of its Prince, who maintains a garrison of 300